

### **REMARKS**

Claim 1 has been amended to recite that "X is an alkyl, alkylphenyl, or an alkylcycloalkyl having from 1 to 10 carbon atoms, or an alkyl, alkylphenyl, or alkylcycloalkyl having from 1 to 10 carbon atoms in which the alkyl group of the alkyl, alkylphenyl, or alkylcycloalkyl is interrupted by 1-3 hetero atoms selected from the group consisting of O and N, and the alkyl interrupted by said 1-3 hetero atoms selected from the group consisting of O and N optionally has from one to three hydroxy functional groups, wherein the alkyl, alkylphenyl, alkylcycloalkyl, or the alkyl, alkylphenyl, or alkylcycloalkyl in which the alkyl group of the alkyl, alkylphenyl, or alkylcycloalkyl is interrupted by said 1-3 hetero atoms selected from the group consisting of O and N and optionally has from one to three hydroxyl functional groups has at least one group including at least one hetero atom selected from the group consisting of N, O, S and P which is positively or negatively charged wherein said group is selected from the group consisting of a quaternary ammonium group, a quaternary ammonium amine group, -O-SO<sub>3</sub><sup>-</sup>, -COO<sup>-</sup>, -O-PO<sub>3</sub>H<sup>-</sup>, -O-PO<sub>3</sub><sup>-2</sup>, -SO<sub>3</sub><sup>-</sup>, -PO<sub>3</sub>H<sup>-</sup>, and -PO<sub>3</sub><sup>-2</sup>. Support for the amendment is found in the specification<sup>1</sup> at, for example, paragraphs 23-30 (see particularly paragraph 23, lines 2-3, 7-8, and 17-22 and paragraph 28, line 10 following the structure), paragraphs 37-55; and Examples 1-5; and original claims 1-7. See *In re Gardner*, 177 USPQ 396, 397 (CCPA 1973) and MPEP §§ 608.01(o) and (l).

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<sup>1</sup> Citations to the specification refer to the published U.S. application, U.S. 2007/0275090.

We note that deletion, without prejudice, of the recitation of "phenyl" in the amendments to substituent X in claim 1 is in accordance with the election of Group II made in the Response to Restriction Requirement dated April 25, 2008.

Claims 2-5, 11, 14, and 18-22 have been canceled, without prejudice.

Claim 6 has been amended to recite that the hetero atom of the at least one group including at least one hetero atom is "selected from the group consisting of N, O, S, and P," in accordance with the amended language of claim 1 from which claim 6 depends. Support for the present amendment is found in the specification at, for example, paragraph 23, lines 7-8 and 17-31, and paragraphs 25 and 28.

Claim 9 has been amended to recite that the hetero atom of the at least one group including at least one hetero atom is "selected from the group consisting of N, O, S, and P," in accordance with the amended language of claim 1 from which claim 9 depends. Support for the present amendment is found in the specification at, for example, paragraph 23, lines 7-8 and 17-31, and paragraphs 25, 26, and 27.

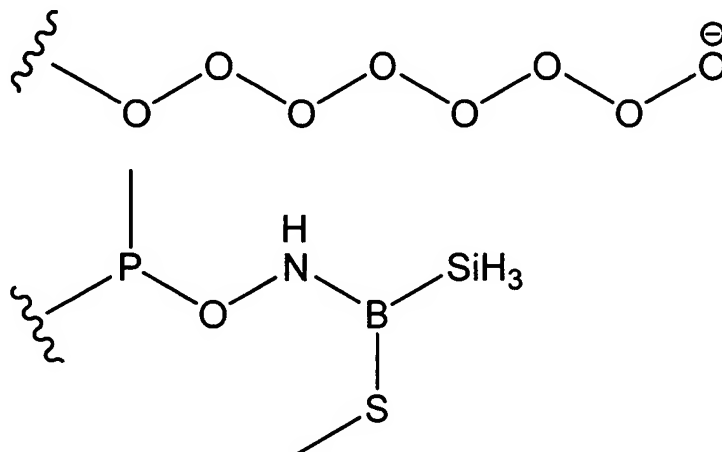
Claims 15 and 25 have been amended to delete, without prejudice, certain compounds in which X is phenyl substituted with a halogen-containing group, in accordance with the election.

No new matter has been added by the amendments. Also, no new issues have been raised by the amendments.

### ***Enablement Rejection***

Claims 1, 4-10, 12, 13, 15-17 and 23-25 were rejected under 35 U.S.C. § 112, first paragraph, as lacking enablement. (Paper No. 20091016 at 3.)

In making the rejection, the Examiner asserted that the recitation "X has from 1 to 10 carbon atoms and from 1 to 10 hetero atoms" is "not enabled for the full scope of the variable X as claimed." (Id.) The Examiner provided hypothetical structures that the Examiner asserted to be within the scope of variable X, which are shown as follows:



(Id.)

It is the Examiner's burden to set forth a prima facie case by establishing a reasonable basis to question the enablement provided for the claimed invention. See *e.g.*, *In re Wright*, 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993); *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988); *In re Strahilevitz*, 668 F.2d 1229, 1232, 212 USPQ 561, 563 (CCPA 1982); *In re Marzocchi*, 439 F.2d 220, 223-24, 169 USPQ 367, 369-70 (CCPA 1971).

We respectfully submit, that for the following reasons, the rejection is flawed. One example of a deficiency in the rejection is that the Examiner has looked at a particular limitation recited without regard to the remainder of the claim language for

substituent X. In this regard, we note the first example of a hypothetical structure of variable X, according to the Examiner, and as shown above, is a chain of eight oxygen atoms with a negative charge on the last atom of the chain. This structure does not, however, include from 1 to 10 carbon atoms. (In this hypothetical structure, the Examiner has even ignored a portion of the limitation that the Examiner has recited.) Nor does the hypothetical structure have an alkyl, alkylphenyl, alkylcycloalkyl, or phenyl, nor an alkyl, alkylphenyl, or alkylcycloalkyl in which the alkyl group of the alkyl, alkylphenyl, or alkylcycloalkyl is interrupted by 1-3 hetero atoms selected from the group consisting of O and N, as previously claimed. In addition, X in the Examiner's first hypothetical structure does not have at least one group including at least one hetero atom which is positively or negatively charged wherein the group is selected from the group listed in the Markush grouping. The second hypothetical structure set forth by the Examiner, which is shown above, also does not have at least one group including at least one hetero atom which is positively or negatively charged wherein the group is selected from the groups listed in the Markush grouping. Thus, the rejection is deficient as a matter of fact and should be withdrawn for this reason alone.

Arguments presented on the record are incorporated herein.

To forward prosecution in the present application, claim 1 has been amended to recite, among other things, that substituent X ***"is an alkyl, alkylphenyl, or an alkylcycloalkyl..."*** The amendments also recite ***"alkyl, alkylphenyl, or an alkylcycloalkyl having from 1 to 10 carbon atoms, or an alkyl, alkylphenyl, or alkylcycloalkyl having from 1 to 10 carbon atoms"*** in which the alkyl group of the alkyl, alkylphenyl, or alkylcycloalkyl is interrupted by 1-3 hetero atoms selected from the group

consisting of O and N, and the alkyl interrupted by said 1-3 hetero atoms ***selected from the group consisting of O and N*** optionally has from one to three hydroxy functional groups..." Furthermore, amended claim 1 recites "***wherein the alkyl, alkylphenyl, alkylcycloalkyl, or the alkyl, alkylphenyl, or alkylcycloalkyl in which the alkyl group of the alkyl, alkylphenyl, or alkylcycloalkyl is interrupted by said 1-3 hetero atoms selected from the group consisting of O and N and optionally has from one to three hydroxyl functional groups has*** at least one group including at least one hetero atom ***selected from the group consisting of N, O, S and P*** which is positively or negatively charged wherein said group is selected from the group consisting of a quaternary ammonium group, a quaternary ammonium amine group,  $-\text{O}-\text{SO}_3^-$ ,  $-\text{COO}^-$ ,  $-\text{O}-\text{PO}_3\text{H}^-$ ,  $-\text{O}-\text{PO}_3^{2-}$ ,  $-\text{SO}_3^-$ ,  $-\text{PO}_3\text{H}^-$ , and  $-\text{PO}_3^{2-}$ ."

Furthermore, the language with which the Examiner took issue, the recitation of "and X has from 1 to 10 carbon atoms and from 1 to 10 hetero atoms," has been deleted.

Presently amended claim 1 is sufficiently enabled. The specification supports the amended language of claim 1 as noted above. With regard to the recitations of 1-10 carbon atoms, see particularly, for example, paragraph 23, lines 2-3 and paragraph 28, line 10 following the structure. The Examples support the amended language in that the alkyl or alkylphenyl of Examples 1, 3, and 5 have 4, 7, and 9 carbon atoms in which the alkyl group itself or the alkyl of the alkylphenyl is interrupted by a hetero atom which is N or O, respectively. The alkyl of Example 4 has 4 carbon atoms interrupted by a hetero atom which is N or O (and 5 carbon atoms as part of the quaternary ammonium group). Example 2 has a 2 carbon alkyl group.

It is also noted that in each instance of recitation of a "hetero atom," the term is modified to indicate the particular hetero atoms encompassed. Further remarks are provided in the subsequent section, Indefiniteness Rejections, section A, footnote 2.

It is submitted that one skilled in the art would be reasonably apprised of the scope of the claimed invention in view of the specification.

It is submitted that the rejection has been rendered moot. Reconsideration and withdrawal of the rejection are requested.

### ***Indefiniteness Rejections***

Claims 1, 4-10, 12, 13, 16, 17, 23, and 24 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. (Paper No. 20091016 at 4.)

#### **A. Claims 4 and 5**

In making the rejection, the Examiner asserted that "claim 5 (which is dependent on claim 1) recites '1-10 heteroatoms are each selected from the group consisting of nitrogen, oxygen, sulfur and phosphorus atoms,' [yet] [t]here is insufficient antecedent basis for this limitation in [claim 1]." (Id.) The Examiner refers only to the limitation in claim 1 of "1-3 heteroatoms selected form the group consisting of O and N."<sup>2</sup> (Id.)

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<sup>2</sup> It is pointed out with regard to claim 1, however, that in addition to the hetero atom in the recitation of "the alkyl group of the alkyl, alkylphenyl, or alkylcycloalkyl ... interrupted by 1-3 heteroatoms selected form the group consisting of O and N," there is also the hetero atom in the recitation of "at least one group including at least one hetero atom which is positively or negatively charged..." The present amendment recites that this latter hetero atom is "selected from the group consisting of N, O, S, and P," which is evident from the Markush listing of "at least one group including at least one hetero atom," which

The Examiner also asserted that "claim 4 (which is dependent of claim 1) recites 'X has 1-6 heteroatoms' [and] [t]here is insufficient antecedent basis for this limitation in the claim." (Id.)

To forward prosecution in the present application, claims 4 and 5 have been canceled without prejudice.

It is submitted that the rejection has been rendered moot. Reconsideration and withdrawal of the rejection are requested.

B. The Term "Has"

In making the rejection, the Examiner asserted that "[t]he term "has" makes the claim indefinite as it could include any other group as long as it has an alkyl[,] alkylphenyl, phenyl, or alkyl, alkylphenyl, or alkylcycloalkyl [...]"

The Examiner also asserted that "[t]he term 'X is defined by an alkyl, alkylcycloalkyl where the alkyl is interrupted by heteroatoms O and N' in claim 1. Also in claim 1 the term 'X is defined as 1-10 carbon atoms and from 1-10 heteroatoms'. There are two definitions for the term 'X' is [sic] which renders the claim indefinite. One of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Examiner does not understand Applicant's intended meaning of said term." (Id. at 4-5.)

Respectfully, we submit that the Examiner has erred in the statement of how X is defined, in missing portions of the recited language. Referring to the

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groups include all of the four currently recited hetero atoms. As such, in each instance of the recitation of "hetero atom," the term is modified to indicate the particular hetero atoms encompassed.

Examiner's first sentence cited above, the claim previously recited that "X has ***an alkyl, alkylphenyl, alkylcycloalkyl, phenyl***, or alkyl, alkylphenyl or alkylcycloalkyl in which the alkyl group of the alkyl, alkylphenyl or alkylcycloalkyl is interrupted by 1-3 hetero atoms selected from the group consisting of O and N, and the alkyl interrupted by said 1-3 hetero atoms optionally has from one to three hydroxyl functional groups..." The Examiner did not include the subject matter of the highlighted portion of the claim. The presently amended claim language recites that "X is an ***alkyl, alkylphenyl, or an alkylcycloalkyl having from 1 to 10 carbon atoms***, or an alkyl, alkylphenyl, or alkylcycloalkyl having from 1 to 10 carbon atoms in which the alkyl group of the alkyl, alkylphenyl, or alkylcycloalkyl is interrupted by 1-3 hetero atoms selected from the group consisting of O and N, and the alkyl interrupted by said 1-3 hetero atoms selected from the group consisting of O and N optionally has from one to three hydroxy functional groups..." The language of the amended claim corresponding to the language the Examiner did not recite is highlighted.

In view of the foregoing, it is respectfully submitted that there were not "two definitions for the term "X", as alleged by the Examiner, in view of reading the claim as a whole.

To forward prosecution in the present application, however, the recitation "X has from 1 to 10 carbon atoms and from 1 to 10 hetero atoms" has been deleted, and claim 1 has been amended as noted. In the amended claim, "alkyl, alkylphenyl, or an alkylcycloalkyl ***having from 1 to 10 carbon atoms***, or an alkyl, alkylphenyl, or alkylcycloalkyl ***having from 1 to 10 carbon*** atoms in which the alkyl group of the alkyl,



alkylphenyl, or alkylcycloalkyl is interrupted by 1-3 hetero atoms selected from the group consisting of O and N..." is recited.

It is submitted that the amended claim is sufficiently definite, and that the rejection has been rendered moot.

Reconsideration and withdrawal of the indefiniteness rejections are requested.

***Elected Subject Matter***

The Examiner asserted that "it is required that all claims be amended to [sic] elected group." (Id. at 6.)

In the Response to Restriction Requirement dated April 25, 2008, the subject matter of the Examiner's restricted Group II was elected. Group II was drawn to "compounds and compositions of Formula I that are not encompassed by Group I", which contained claims 1-17. Because Group I as drawn by the Examiner included "X=phenyl...", claim 1 has been amended to delete, without prejudice, "phenyl" from the options for substituent X.

It is submitted that the claims as amended herein are consistent with the elected subject matter.

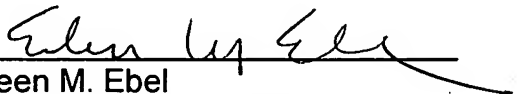
Application No.: 10/589,051  
Response Dated: January 21, 2010  
Reply to Final Action Dated: October 21, 2009

Accordingly, for the reasons set for the above, entry of the amendments is appropriate because the amendments place the claims in condition for allowance or better form for appeal. Entry of the amendments, withdrawal of the rejections, and allowance of the claims are respectfully requested. If the Examiner has any questions about this paper, please contact the undersigned.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Mail Stop AF, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on January 21, 2010.

  
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